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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/666,899

09/18/2003

Richard D. Dettinger

ROC920030162US1

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7590

11/13/2007

IBM CORPORATION, INTELLECTUAL PROPERTY LAW
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EXAMINER

WILSER, MICHAEL P

ART UNIT

PAPER NUMBER

2195

MAIL DATE

DELIVERY MODE

11/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/666,899

Applicant(s)

DETTINGER ET AL.

Examiner

Michael Wilser

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-30 and 32-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-30, & 32-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-12, 14-30, and 32-42 are pending in this application.
2. Claims 13 and 31 have been cancelled.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 21-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 21-38 is drawn to a computer readable storage medium, which the applicant has defined in the specification (page 8, paragraph 0031, lines 4-10) as part of "signal bearing media" to include (i) and (ii) computer storage media, and (ii) communications media to encompass an electronic transmission signal. The Office considers signals to be a form of energy. Energy is not a series of steps or acts and this is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefore not a compilation of matter. Thus, an electronic transmission signal does not

Art Unit: 2195

fall within any of the four categories of invention. Therefore, Claims 21-38 are not statutory.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 9, 21, 23, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Stone (US 2003/0046615).

7. As per Claim 1, Stone teaches the invention as claimed including a method comprising:

a. initiating a primary executing entity configured to perform requests specific to the primary entity (page 1, paragraph 11);

b. initiating a secondary executing entity configured to perform requests specific to the secondary entity (page 1, paragraph 11);

Art Unit: 2195

c. performing requests by the primary and secondary entity (page 1, paragraph 11); and

d. the secondary entity performing the same tasks as the primary entity in a time-delayed fashion while the first entity continue executing requests (page 1, paragraph 11 & pages 1 & 2, paragraph 12).

8. However, Stone does not explicitly state that the state information for both entities are maintained separately. However, Stone shows that the two entities inherently maintain separate state information because the two entities compare results throughout the requests to ensure that no errors have occurred (pages 1 & 2, paragraph 12). Therefore, both entities would have to maintain their own state information to allow for this comparison to be made.

9. As per Claim 3, Stone further discloses of:

- a. terminating the primary executing entity (page 1, paragraph 11); and
- b. performing requests performed by the terminated entity and not yet performed by the secondary entity (page 1, paragraph 11).

10. As per Claim 9, Stone further discloses that the requests are time ordered and processed according to the time order (page 4, paragraph 46).

Art Unit: 2195

11. As per Claims 21, 23, and 27, they are rejected for the same reason as Claims 1, 3, and 9 above.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 11, 13, 16, 19, 22, 29, 31, 34, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 2003/0046615) in view of Chamdani et al. (US 6,985,975).

14. As per Claim 2, Stone further discloses of making the performance of the primary entity visible to the user (page 1, paragraph 11).

15. However, Stone does not explicitly discloses of making the performance of the second executing entity transparent to the user. However, Chamdani discloses a similar method and medium for processing in which the second entity is transparent to the user (column 2, lines 20-27).

16. It would have been obvious to one of ordinary skill in the art at the time of invention to make the secondary executing entity in Stone be transparent. One would have been motivated to have the second entity be transparent so that the user only say the performance of the entity that was executing their requests since the secondary entity is only there as a fail safe.

17. As per Claim 11, Stone further discloses a method and medium comprising:

- a. receiving user requests from a user (page 1, paragraph 8 & page 4, paragraph 40);
- b. performing requests by the primary and secondary entity (page 1, paragraph 11); and
- c. the secondary entity performing the same tasks as the primary entity in a time-delayed fashion while the first entity continue executing requests (page 1, paragraph 11 & pages 1 & 2, paragraph 12).

18. However, Stone does not explicitly state that the state information for both entities are maintained separately. However, Stone shows that the two entities inherently maintain separate state information because the two entities compare results throughout the requests to ensure that no errors have occurred (pages 1 & 2, paragraph 12). Therefore, both entities would have to maintain their own state information to allow for this comparison to be made.

19. However, Stone does not explicitly disclose of placing the user requests on a queue in a time-ordered manner and performing each task upon being placed on the queue. However, Chamdani discloses a similar method and medium for processing comprising placing user requests in a time-ordered queue (using first-in first-out queue management) (column 11, lines 54-65) and performing each request upon being placed on the queue (column 11, lines 54-65).

20. It would have been obvious to one of ordinary skill in the art at the time of invention to place the request in Stone in a time-ordered queue and perform the task upon being placed in the queue. One would have been motivated to place the tasks in a queue since the system allows for multiple user requests to be processed by the system, the system would have to have a queue to store these requests until they arrived at their time to have access to the processor.

21. As per Claim 16, Stone teaches a method comprising:

- a. receiving user requests from a user (page 1, paragraph 8 & page 4, paragraph 40);
- b. performing requests by the primary and secondary entity (page 1, paragraph 11);
- c. making the performance of the primary entity visible to the user (page 1, paragraph 11); and

d. the secondary entity performing the same tasks as the primary entity in a time-delayed fashion while the first entity continue executing requests (page 1, paragraph 11 & pages 1 & 2, paragraph 12).

22. However, Stone does not explicitly state that the state information for both entities are maintained separately. However, Stone shows that the two entities inherently maintain separate state information because the two entities compare results throughout the requests to ensure that no errors have occurred (pages 1 & 2, paragraph 12). Therefore, both entities would have to maintain their own state information to allow for this comparison to be made.

23. However, Stone does not explicitly disclose of placing the user requests on a queue in a time-ordered manner and performing each task upon being placed on the queue. However, Chamdani discloses a similar method and medium for processing comprising placing user requests in a time-ordered queue (using first-in first-out queue management) (column 11, lines 54-65) and performing each request upon being placed on the queue (column 11, lines 54-65).

24. It would have been obvious to one of ordinary skill in the art at the time of invention to place the request in Stone in a time-ordered queue and perform the task upon being placed in the queue. One would have been motivated to place the tasks in a queue since the system allows for multiple user requests to be processed by the

Art Unit: 2195

system, the system would have to have a queue to store these requests until they arrived at their time to have access to the processor.

25. Chamdani further discloses of making the second entity transparent to the user (column 2, lines 20-27).

26. As per Claim 19, Chamdani further discloses of making the secondary executing entity visible to the user upon encountering an error by the primary entity (column 2, lines 20-27).

27. As per Claims 22, 29, 34, and 37, they are rejected for the same reason as Claims 2, 11, 16, and 19.

28. Claims 4-8, 10, 24-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 2003/0046615) in view of Aguilera et al. (US 6,687,847).

29. As per Claim 4, Stone does not explicitly disclose that the executing entities are threads. However, Aguilera discloses of a similar method and medium for processing in which the executing entities are threads (column 2, lines 19-25).

30. It would have been obvious to one of ordinary skill in the art at the time of invention to have the entities in Stone be threads. One would have been motivated to have the entities in Stone be threads since threads are the primary means of execution within a processor in a computer system.

31. As per Claim 5, Stone further discloses of the primary and secondary entities producing output (pages 1 & 2, paragraph 12). And, Aguilera further discloses processing in which the primary output is displayed (column 2, lines 2-10) and the secondary output is discarded without being displayed (column 2, lines 2-10).

32. As per Claim 6, Stone further discloses of:

- a. encountering an error by the primary entity (page 1, paragraph 11); and
- b. terminating the primary executing entity (page 1, paragraph 11).

And, Aguilera further discloses of processing in which the user is returned to a request being handled at the time the error occurred (column 2, lines 2-10).

33. As per Claim 7, Stone further discloses of:

- a. encountering an error by the primary entity (page 1, paragraph 11); and
- b. terminating the primary executing entity (page 1, paragraph 11).

And, Aguilera further discloses of processing in which the user is returned to a request being handled before the error occurred (column 2, lines 2-10).

34. As per Claim 8, Stone further discloses of:

- a. encountering an error by the primary entity (page 1, paragraph 11); and
- b. terminating the primary executing entity (page 1, paragraph 11).

And, Aguilera further discloses of processing in which the user is returned to a range of requests being handled between the primary entity and the secondary entity at the time the error occurred (column 2, lines 2-10).

35. As per Claim 10, Stone further discloses of terminating the primary executing entity (page 1, paragraph 11). And, Aguilera further discloses of processing in which the secondary entity performs the tasks between the last task performed by the primary entity and the last task performed by the primary entity (column 2, lines 2-10).

36. As per Claims 24-26 and 28, they are rejected for the same reason as Claims 4-6 and 8 above.

37. Claims 12, 14-15, 17-18, 20, 30, 32-33, 35-36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 2003/0046615) and Chamdani et al. (US 6,985,975) as applied to claims 11, 16, 29, and 34 above, and further in view of Aguilera et al. (US 6,687,847)

38. As per Claim 12, Stone further discloses of:

- a. encountering an error by the primary entity (page 1, paragraph 11); and
- b. terminating the primary executing entity (page 1, paragraph 11).

39. However, Stone does not explicitly disclose of returning the user to a request being handled by the primary entity at the time that the error occurred. However, Aguilera discloses of a similar method and medium for processing in which the user is returned to a request being handled at the time the error occurred (column 2, lines 2-10).

40. It would have been obvious to one of ordinary skill in the art at the time of invention to return the user to a request at the time of error in Stone. One would have been motivated to return the user to the request that caused the error to allow the request to be handled a second time by the secondary executing entity.

41. As per Claim 14, Aguilera further discloses of processing in which the executing entities are threads (column 2, lines 19-25).

42. As per Claim 15, Aguilera further discloses processing in which the entities are executable code elements of an application (programs) (column 2, lines 19-25).

43. As per Claim 20 Stone further discloses of:

- a. encountering an error by the primary entity (page 1, paragraph 11); and

b. terminating the primary executing entity (page 1, paragraph 11).

And, Aguilera further discloses of processing in which the user is returned to a request being handled before the error occurred (column 2, lines 2-10).

44. As per Claims 17, 32, and 35, they are rejected for the same reason as Claim 14 above.

45. As per Claims 19, 33, and 36, they are rejected for the same reason as Claim 15 above.

46. As per Claims 30 and 38, they are rejected for the same reason as Claims 12 and 20 above.

47. Claims 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 2003/0046615) in view of Chamdani et al. (US 6,985,975) and Aguilera et al. (US 6,687,847).

48. As per Claim 39, Stone teaches the invention as claimed including a system comprising:

a. primary executing entity configured to process requests (page 1, paragraph 11);

b secondary entity processing requests in a time-delayed manner with respect to the primary entity (page 1, paragraph 11 & pages 1& 2, paragraph 12);

c. making the performance of the primary entity visible to the user (page 1, paragraph 11);

d. encountering an error by the primary entity (page 1, paragraph 11); and

e. terminating the primary executing entity (page 1, paragraph 11).

49. However, Stone does not explicitly disclose of placing the user requests on a request queue in a time-ordered manner and performing each task upon being placed on the queue. However, Chamdani discloses a similar system for processing comprising placing user requests in a time-ordered queue (using first-in first-out queue management) (column 11, lines 54-65) and performing each request upon being placed on the queue (column 11, lines 54-65).

50. It would have been obvious to one of ordinary skill in the art at the time of invention to place the request in Stone in a time-ordered queue and perform the task upon being placed in the queue. One would have been motivated to place the tasks in a queue since the system allows for multiple user requests to be processed by the system, the system would have to have a queue to store these requests until they arrived at their time to have access to the processor.

51. And, Chamdani further discloses of:

a. a system for processing in which the second entity is transparent to the user (column 2, lines 20-27); and

b. making the secondary executing entity visible to the user upon encountering an error by the primary entity (column 2, lines 20-27)

52. However, Stone does not explicitly disclose of returning the user to a request being handled by the primary entity before the error occurred. However, Aguilera discloses of a similar system for processing in which the user is returned to a request being handled before the error occurred (column 2, lines 2-10).

53. It would have been obvious to one of ordinary skill in the art at the time of invention to return the user to a request before the time of error in Stone. One would have been motivated to return the user to the request before the error occurred to allow the system to return to the state before the primary entity encountered the error.

54. As per Claim 42, Stone further discloses of a plurality of secondary entities each displaced by a number of user requests (page 1, paragraph 11 & pages 1 & 2, paragraph 12).

55. Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stone (US 2003/0046615), Chamdani et al. (US 6,985,975), and Aguilera et al. (US

Art Unit: 2195

6,687,847) as applied to claim 39 above, and further in view of DeKoning (US 6,148,368).

56. As per Claim 40: Stone does not explicitly disclose of all of the requests by the primary and secondary entities being preserved so that they can be re-executed by a user after all errors have occurred. However, DeKoning discloses a similar system in which the user requests are preserved for re-execution at a later time (column 4, lines 8-26).

57. It would have been obvious to one of ordinary skill in the art at the time of invention to have preserved the user requests in Stone. One would have been motivated to preserve the error requests so that the user could run the requests through a debugger to find out what caused the errors.

58. As per Claim 41, DeKoning further discloses that the user can discard requests and enter new requests (column 4, lines 8-26).

Response to Arguments

59. Applicant's arguments filed August 13, 2007 have been fully considered but they are not persuasive.

60. The applicant argues that the invention of Stone (US 2003/0046615) does not teach that the executing entities run in a time-delayed format as in Claim 1. However, the examiner notes that Stone does disclose that multiple instances "may run at various times" (page 1, paragraph 7). As well as disclosing that the replication can have "instance redundancy" executing at the same time. The part of the reference referenced by the applicant is only one possible embodiment and is reminded that the reference has to be read as a whole not just the paragraphs cited in the office action.

61. The remainder of the applicant's arguments stems from this same assumption and therefore none of the arguments involving independent Claims 1, 11, 16, 21, 29, 34, and 39 are found to be persuasive. Arguments directed towards the dependent claims are not found persuasive due to the upholding of the original rejection.

Conclusion

62. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wilser whose telephone number is (571) 270-1689. The examiner can normally be reached on Mon-Fri 7:30-5:00 EST (Alt Fridays Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2195

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MPW
October 16, 2007



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